In the Claims:

Claims 1-23 (Canceled).

Claim 24 (Currently Amended). A method of visualizing a curved layer of a body, which comprises:

providing volumetric data, the volumetric data having first voxels belonging to a reference surface and having two dimensional slices;

pre-processing the volumetric data in a reformatting step including:

moving voxels outside the reference surface to a common row of one of the slices,

moving voxels outside the reference surface within slice such that respective distances from the reference surface remain unchanged such that all voxels that are equidistant to the reference surface are moved into the common row of the slice;

determining second voxels of the volumetric data having a user selected distance from the reference surface; and

visualizing the second voxels by orthogonal or perspective projection by generating an image of the voxels within common row positions in parallel slices.

Claim 25 (Previously Presented). The method of claim 24, which further comprises segmenting the volumetric data to identify the first voxels.

Claim 26 (Previously Presented). The method of claim 24, wherein the user selected distance of each one of the second voxels from the reference plane is determined along a direction of projection.

Claim 27 (Previously Presented). The method of claim 24, wherein the user selected distance of each one of the second voxels from the reference surface is determined by a minimum distance measure.

Claim 28 (Previously Presented). The method of claim 27, wherein the minimum distance measure is a Euclidean distance.

Claim 29 (Previously Presented). The method according to claim 24, wherein:

the volumetric data is medial image data; and

the reference surface is a body-region surface.

Claim 30 (Previously Presented). The method according to claim 29, wherein said volumetric data is a thorax CT scan.

Claim 31 (Previously Presented). The method according to claim 29, wherein the body-region surface is a surface of a lung.

Claim 32 (Previously Presented). The method according to claim 29, wherein the body-region surface is a surface of a pathological structure.

Claim 33 (Previously Presented). The method of claim 24, wherein the volumetric data is three-dimensional microscopy data.

Claims 34-38 (Canceled).